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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,540	12/26/2001	Yasutomo Watanabe	35.C16067	8300

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EXAMINER

BROOKE, MICHAEL S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,540

Applicant(s)

WATANABE, YASUTOMO

Examiner

Michael S. Brooke

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1, 6. 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species 1 in Paper No. 8 is acknowledged.
2. Claims 5 and 6 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 8.

Claim Objections

3. Claim 3 is objected to because of the following informalities:
 - The language "wherein the substrate is thin ..." is non-idiomatic English.Appropriate correction is required.

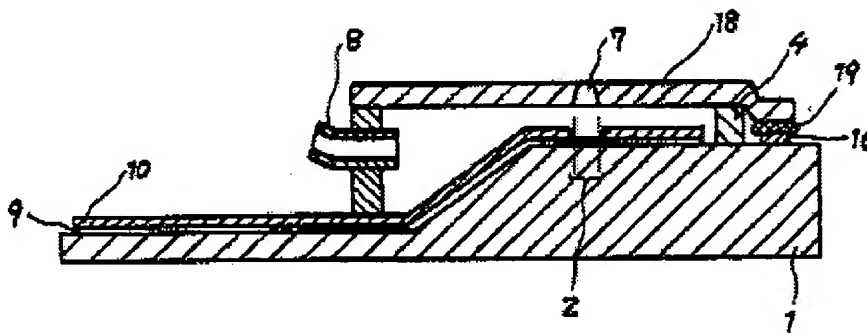
Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirasawa (JP 61255866 abstract).



Hirasawa teaches (Fig. 3b, above) an ink jet print head comprising a flat substrate (1) having a front surface, a back surface and an end face, wherein the front and back surfaces have a larger area than the end face. An electrothermal converting element (2) is provided on the substrate and is positioned opposite a discharge port (7). A wiring electrode (10) is formed on the front main surface of the substrate. A connection electrode (9) is connected to the wiring electrode and is provided on a surface other than the front and back main surfaces. As can be seen in Fig. 2, the connection electrodes are connected to a signal source outside of the print head. Hirasawa is silent as to what the substrate is made from.

Claim Rejections - 35 USC § 103

6. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirasawa (JP 61255866 abstract), as applied to claims 1, 7 and 8 above, and further in view of Silverbrook (5,796,416).

Hirasawa teaches the claimed invention with the exception of the substrate being made of single crystal silicon.

Silverbrook teaches an ink jet print head having a substrate (101) that is made from single crystal silicon. This material provides the advantages of allowing the drive circuitry to be fabricated in the substrate, allowing the print heads to be manufactured using standard VLSI technology and providing substrates having high mechanical strength and rigidity (col. 10:37-49).

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have manufactured the substrate of Hirasawa from single crystal silicon for the purpose of providing the advantages of allowing drive circuitry to be fabricated in the substrate, allowing the print heads to be manufactured using standard VLSI technology and providing substrates having high mechanical strength and rigidity, as taught by Silverbrook.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirasawa (JP 61255866 abstract), as applied to claims 1, 7 and 8 above, and further in view of Childers et al. (4,940,413).

Hirasawa teaches the claimed invention with the exception of a member on which the head is mounted.

Childers et al. teaches that the ink jet head (10) is mounted on a carriage (36), which scan the head across the recording medium (38) to effect printing.

It would have been obvious to one of ordinary skill in the ink jet art at the time the invention was made to have provided Hirasawa with a carriage for the purpose of scanning the head across the recording medium, as taught by Childers et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael S. Brooke whose telephone number is 703-305-0262. The examiner can normally be reached on M-F 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.



Michael S. Brooke
Examiner
Art Unit 2853

MSB
December 3, 2002